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REMARKS

The drawings are objected to for the reasons noted in the official action. All of the raised drawing objections are believed to be overcome by the cancellation of claims 14 and 15 accompanying the attached Submission. If any further amendment to the drawings is believed necessary, the Examiner is invited to contact the undersigned representative of the Applicant to discuss the same.

The above amended paragraph of the specification overcomes some informalities noted in the specification on file. The undersigned avers that the newly entered/amended paragraph of the specification does not contain any new subject matter.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, resulting in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. Claim 19 is now amended to appropriately set forth the method steps necessary to support the claimed recitation of a use. If the Examiner disagrees with such amendments overcome the rejection under 35 U.S.C. 101 the Examiner is courteously invited to contact the undersigned Attorney of Record to discuss the same.

Claims 11-19 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons noted in the official action. The rejected claims are accordingly amended, by the above claim amendments, and the presently pending claims are now believed to particularly point out and distinctly claim the subject matter regarded as the invention, thereby overcoming all of the raised § 112, second paragraph, rejections. The entered claim amendments are directed solely at overcoming the raised indefiniteness rejection(s) and are not directed at distinguishing the present invention from the art of record in this case.

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Claim 19 is rejected, under 35 U.S.C. § 102(b), as being anticipated by Arena '852. The Applicant acknowledges and respectfully traverses the raised anticipatory rejection in view of the following remarks.

As the Examiner is aware, in order to properly support an anticipation rejection under 35 U.S.C. § 102(b), the cited reference must disclose each and every feature of the presently claimed invention. Observing Arena '852 and recounting the claimed subject matter of Applicant's pending claim 19 which recites "...an actuating device (18) to be operated with the recirculating ball spindle (44) of a clutch (6) between one prime mover (4) and one gearing (8) of a motor vehicle (2)...", the Applicant points out that whether or not there is a hollow recirculating ball spindle disclosed by the intermediate actuating member 70 in Arena '852, there is no disclosure, teaching or even a suggestion therein of the Applicant's claimed features of a clutch, or the related positions of the prime mover, or transmission (gearing) of a motor vehicle as set forth in claim 19. Therefore, the Applicant respectfully requests withdrawal of the anticipation rejection.

Claims 11-13 and 16 are rejected, under 35 U.S.C. § 103, as being unpatentable over Reuter et al. '325 in view of Schanzenbach et al. '783. The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the above amendments and the following remarks.

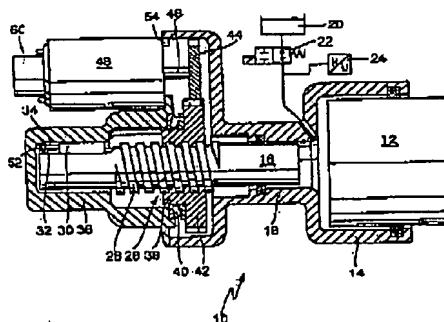
As the Examiner is aware, in order to properly support a combination of references under 35 U.S.C. § 103(a), the references must provide some disclosure, teaching or suggestion which would lead one of ordinary skill in the art to combine the references in order to achieve the presently claimed invention. As an initial matter, Reuter et al. '325 relates to an electronic actuator for use in a four-wheel drive vehicle transmission for either 1) a range shift actuator and/or 2) a clutch actuator to control engagement of a clutch between two-wheel drive automatic, four-wheel drive and part time four-wheel drive operating modes.

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Entirely different from the structure and function of a clutch and gear shift actuators, Schanzenback et al. '783 relates specifically to a wheel brake apparatus and method for operating the brake.



As seen in Schanzenback 's only figure above, Schanzenback et al. '783 utilizes a rotation/translation conversion mechanism such as the helical gears gear teeth 26 in order to hydraulically move a working piston 16 for actuation of a brake lining piston 12 of the wheel brake. Arguably, each of the combined references includes a rotation-linear conversion mechanism, and specifically shows in the relevant figures a helical gear system for accomplishing such a task. Beyond this mechanism, the structure and function of these applications is entirely different, a fact which is underscored in particular where in Schanzenback et al. '783 there is a particular advantage in the coaxial pistons 16 and 12 arrangement for actuation of the brake, even in the event of failure of the hydraulic system whereas the brake lining piston 16 can be directly contacted and actuated by the working piston 12.

In addition to the lack of disclosure and motivation to combine based on the noted differences above, the references actually teach away from one another where as observing the clutch actuator as shown in Figure 6 of Reuter et al. '325, we note that there is no accumulator mechanism used in this reference. In fact, as noted in the abstract of Reuter

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et al. '325 "...because the linear screws cannot be back driven their previously set positions are maintained in the event of motor failure or power loss." This is directly at odds with the brake mechanism of Schanzenbach et al. '783, which discloses the hydraulic accumulator system for hydraulically moving the pistons 16 and 12 in the working cylinder 18.

Interestingly, the Official Action does not combine the clutch actuator 42 of Reuter et al. '325 as shown in Figure 6 and discussed in column 9, lines 4-62 with the Schanzenbach et al. '783 reference but actually combines the range gear shift actuator 41 as shown in Figure 4 with Schanzenbach et al. '783. This range shift actuator 41 shifts a transmission between four wheel drive, two wheel drive and four wheel automatic mode and, as best the Applicant understands the combination, the lost motion spring 86 as shown in Figure 4 is equated with Applicant's power accumulator as described in claim 11 of the present invention.

The lost motion spring 86 is not truly an "accumulator". This lost motion spring 86 is described in Reuter et al. '325 at column 7, lines 56-64, merely accommodates some axial "slip" between the inner sleeve and the outer sleeve during actuation of the range shift actuator 41. In other words, the lost motion spring 86 merely provides for some slight bias, or give, between the inner sleeve 85 and the outer sleeve 81 to more accommodate friction in the gear shifting function of the range shift actuator 41. Even if the spring 86 can be defined as an "accumulator", this lost motion spring 86 provides no power accumulation between the motor shaft 75 and outer sleeve 81, but merely ensures some relative displacement between the inner sleeve 83 and the outer sleeve 81 occurs despite some gear shift friction.

In any event, as described in column 7, lines 40-45 "once the desired shift is made, no further electric current need to be supplied to the actuator motor to maintain the set position of the shift sleeve 53, since the inherent frictional characteristics of the linear screw arrangement prevent the shift sleeve from back driving the motor shaft. Thus, in the event of a motor failure or loss of electric power, the previous shift sleeve position will be maintained." Again, there is

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no power assistance from the helical compression spring 86 to effect the actuation between the motor 70 and the outer sleeve 81. The spring bias of this lost motion spring connection 85 is merely to effectuate the engagement of the range transfer gears without damage to the gears.

Thus, in view of the significant disparities between the references, as well as with the presently claimed invention, it is the Applicant's position that no one of ordinary skill in the art would be motivated either by the disclosures of these references explicitly or implicitly, or the particular inherent knowledge or skill of one of ordinary skill in the art to combine such a wheel brake apparatus and a co-linear actuation mechanism with the electronic shift or clutch actuator as disclosed in Reuter et al. '325. Importantly, while it is true that column 3, lines 35-40 of Schanzenback et al. '783 disclose that a specific type of rotation/translation conversion mechanism is "for example a recirculating ball transmission or a planetary roller screw drive..." there is no disclosure as to how any such a roller bearing would be used in Reuter et al. '325 much less used in a clutch actuation system of the presently claimed invention, especially given the particularly limited space in which a transmission actuator is intended to operate.

Even if these references are combinable, and the Applicant adamantly asserts that they are not, a combination of these references in any manner still fails to disclose, teach or suggest the features of the presently claimed invention, namely " " as recited in claim 11. In fact, Reuter et al. '325 specifically teaches away from the use of any such accumulator where it discloses explicitly there is no back driven force so that the set positions of the linear screws can be maintained, even in the event of a power failure. In particular, Applicant notes that even if the spring 80 is a helical spring 86 can be represented in some manner as an accumulator, any true accumulation of power or biasing force is specifically between the inner sleeve 85 and the outer sleeve 81. Notably in the present invention, the power accumulation as accomplished by the spring accumulator 52 is between the housing and the recirculating ball spindle. This

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allows a specific power accumulation to assist in the actuation of the linear actuation as a power assistance in the linear actuation of the actuator 18.

Additionally, and further to Applicant's above noted issue with respect to the lack of any disclosure, teaching or suggestion of how any such recirculating ball transmission would be incorporated in Reuter et al. '325, even if such a combination were possible, there is again no further teaching or disclosure as to where the accumulator would actually be located relative to the recirculating ball spindle. Claim 11 specifically recites, "...the accumulator (52) is situated at least partly within the recirculating ball spindle (44) providing power assistance *directly* to the recirculating ball spindle (44)." As can be appreciated, as seen in Fig. 2, because the accumulator is located directly between the housing and the recirculating ball spindle 34 all the power assistance occurs directly to the spindle 34 and facilitates the operation of the clutch. Such an effect does not occur in Reuter et al. '325 where the spring merely cushions any minor displacement between the inner and outer sleeves 83, 81 and does not effect the movement or power provided to the outer sleeve 81 i.e. the ball spindle.

This leads to the fact that to provide additional power support to any element in Reuter et al. '325, an accumulator such as disclosed in the present invention would have to be added. Not only is such an accumulator feature beyond the scope of either of these references, but would have to be added in addition to the features, such as the lost motion spring 86 already disclosed therein. In this regard, any accumulator that was added to Reuter et al. '325 and/or Schanzenback et al. '783 would have to be placed somewhere in addition to this lost motion spring 86 and therefore could not be positioned where the lost motion spring 86 is currently located between the inner and outer sleeves 85 and 81. Thus, even if a person of ordinary skill in the art could combine these references, it would certainly not happen without the further addition of an accumulator not shown in either reference, and were such an accumulator would

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be placed would not meet the specifically claimed feature of being inside a recirculating ball spindle 44.

Applicant has added new claims 20-24 in order to further clarify the structure and inventive aspects of the present invention. Claim 20 includes the specific feature "wherein the accumulator is positioned at least partially inside the hollow recirculating ball spindle (44) between the housing and a first end of the recirculating ball spindle (44)." Noting the cited references any accumulator or similar biasing system disclosed in these references is not positioned in the manner as now recited in claim 20. These claims are clearly believed to define the present invention over the prior art and thus are believed to be allowable for similar or the same reasons as discussed above.

Claim 17 is rejected, under 35 U.S.C. § 103, as being unpatentable over Reuter et al. '325 in view of Schanzenbach et al. '783 as applied to claim 11 above, and further in view of Bansbach et al. '338. Claim 18 is rejected, under 35 U.S.C. § 103, as being unpatentable over Reuter et al. '325 in view of Schanzenbach et al. '783 as applied to claim 11 above, and further in view of Arena '852. As the remaining claims 12, 13 and 16-18 are dependent on claim 11 either directly or indirectly, Applicant believes these claims to be allowable as well and thus no further discussion is provided in this regard.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Reuter et al. '325 in view of Schanzenbach et al. '783 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying

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on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised obviousness rejections should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



Scott A. Daniels, Reg. No. 42,462

Customer No. 020210

Davis Bujold & Daniels, P.L.L.C.

112 Pleasant Street

Concord, NH 03301-2931

Telephone 603-226-7490

Facsimile 603-226-7499

E-mail: patent@davisandbujold.com

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